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Richard Janssen

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## ESTABLISHING GENETIC LINES FOR GOAL ORIENTED BUYERS

Richard Janssen

I would like to thank you for inviting me here tonight to share with you a few thoughts about our breeding program. It's exciting to be in the Angus business today as we are having more fun breeding cattle on our farm now than ever before. It is also exciting to see changes we can make using the latest technology available.

In order for you to get an idea of where I'm coming from and why I'm doing the things I'm doing today, I'd like to briefly take you back to when I first started. I was raised on a farm in central Kansas where my parents maintained 50 registered Angus cows as part of their farm operation. It was only natural for me to show Angus steers and heifers as my 4-H projects. I have seen this breed swing from the small belt-buckle cattle of the fifties to some of the extremely large framed cattle we have today.

My personal involvement in breeding Angus cattle began in 1964 when I graduated from Kansas State. At this time performance testing was becoming the in thing, and AHIR was in its early stages of growth. The movement in our industry for size and growth was on as Angus cattle were getting discounted in the market place for being too small. We joined in the hunt for larger framed cattle, as we bought the largest framed Angus cows we could find and mated them to the largest framed Angus bulls we could find. We made some progress but because of the lack of real genetic knowledge of our breeding stock the progress was limited. When open AI came on line in the 1970's along with the advancements in the National Sire Summary, progress speeded up. We could use bulls from anywhere with more information available than ever before. The attitude prevailed of mating biggest to biggest. The bigger your seedstock became the more dollars you got for them. We followed the trend. Then in 1983, we had a rude awakening. We lost 25% of our calf crop out of 2-year old heifers before we knew what was happening. Prior to this time we had been calving out our heifers in a pasture a couple miles from home with very few problems. Apparently with our aggressive use of AI, rapid generation turn over and our quest for larger framed cattle, we created a problem our management could not handle. I think it is important for you to understand that our management consisted of my wife and I, with some part time help mainly in the summer.

At this time our cattle operation consisted of approximately 125 mother cows and we farmed about 1300 acres of wheat and milo. We had always tried to run our farm similar to the commercial cattle operations in our area where we sold most of our cattle. Baby-sitting heifers during calving season was something we did not have time for, nor did our customers. We knew the type of cattle we had developed over the past 18 years were very salable, but from our own experience they were not providing the calving ease necessary to fit our management. We no longer had any predictability in calf weights or when they would be born. Some of our heifers were having calves 5 to 10 days over their normal due dates with some birth weights in excess of 100

pounds. It was obvious to us we needed to make some adjustments in our breeding program. We thought if we'd use bulls with 0 to +2 birth EPD's on our heifers, we would solve our problems. We did see some improvement, but birth weights were still very inconsistent. Since our records showed that many of our bulls were being sold to calve out first calf heifers, the product we were selling had to be improved.

That's when the idea of breeding cattle for a single common purpose, that of growth, gave way in our minds to the idea of different cattle for different purposes. So in 1985, we finally made a dramatic move. Going back to the 16th century breeder, Robert Bakewells "LIKE BEGETS LIKE" concept of breeding cattle, we set out to find cows in our herd with a history of light birth weight calves to breed to bulls with the lowest acceptable birth EPD's available. Angus cattle in general had long been noted for their calving ease, milk and carcass quality. We do not believe this is their only purpose, but do believe that a portion of the breed needs to maintain these traits. By using our produce of dam summary, keeping in mind that 50% of genetics for calving ease comes from the cow and 50% for the sire, with 100% of the environment from conception to birth provided by the cow, we began searching for cows with a history of light birthweight calves. Since we did not have EPD's at this time we used our Produce of Dam summary to look for cows that had a history of light birth weight calves, some even when bred to bulls with birth weight EPD's of +4 and up. These cows calves, because of their lighter birth weights, had been our source of bulls we had been selling to our commercial buyers as calving-ease bulls. We knew from the experience we had had with our 2-year old heifers that bulls with +4 EPD's for birth weight had the potential of siring some excessively big calves. Our "calving ease bulls" were probably not a very predictable product. Another point of information we looked for on the produce of dam summary was the gestation length. We found 12 cows we thought would work. The gestation length of their calves averaged a -5 days short of the normal 283 days.

Referring back to our idea of different cattle for different purposes we decided that the proper function of these cows was the production of calving ease seed stock. We called these cows System 1's.

Since we had decided to mate likes to likes, we called John Crouch at the American Angus Association and asked for a computer sort on bulls in the sire summary that were minus on birth weight EPD's and plus on milk. we had two purposes in mind when we called for this sort. One, to give us the bloodlines that we could use on the System 1 cows we had identified and second, to find a potential source of cows to add to this group because we did not feel that 12 cows were enough to give this program an adequate test. This was the beginning of our systematic selection approach to breeding cattle on our farm. I'd like to add that the perimeters that we have drawn up are the result of how our cattle function under our management and environment and may or may not function the same under different management systems.

Systematic selection is simply putting perimeters on breeding functions. Our first function is calving ease. Our breeding process is first build around EPD for birth weights. The lowest birth EPD's on John's sort with acceptable performance was -3.6 and we knew from experience that +1.0 was a high as

we wanted to go. It is important to note that we must have some flexibility in our perimeters due to EPD's changing each time a new sire summary is run. Therefore, we have set the perimeters for birth EPD's on our System 1 cows at -4.0 to +1.5. We set the perimeters for actual birth weights of 60 to 80 pounds. The reason for using actual birth weights is to put more selection pressure on the product we wanted to produce. Our records showed that the majority of 2-year old heifers, if raised with adequate nutrition, had the ability to have an 80 pound calf unassisted. We will continue to monitor each cows gestation length.

Our second function was milk. We believed that System 1 cows should be above breed average for milk. Since we expected these cows to be smaller at maturity we felt confident that they could carry a higher milk value under our management and environment and still breed back. We set the perimeters for milk EPD's on the System 1 cows at 0 to +20. Again allowing for some flexibility due to changes in the sire summary.

It was interesting to note that when EPD's came out on our cows in the fall of 1986, our original 12 System 1 cows birth EPD's averages -1.3 and their milk EPD's averages +8.2.

Our third function was growth. We did not limit growth as long as the first two functions were maintained.

After we set our perimeters on our System 1 cows, we went back to the bulls on John's original sort. The bloodlines of Emulation 31 appeared three times, Emulation 31 himself and 2 of his sons, which were bred by Tom Elliot at N-Bar Ranch in Montana. Our interest in these bloodlines led to the development of a long distance friendship with Tom. Since we were looking for both bulls and females with a calving ease base, N-Bar Ranch where Emulation 31 had been used for many years, was our natural choice. We purchased from Tom 22 cows which were either daughters of Emulation 31 or line bred to him. At this time we also purchased and interest in one of the bulls that was on John's sort, Emulation N-Bar 5522, a son of Emulation 31.

This gave us a base of 34 System 1 cows to use with the three bulls we selected off the sort, N-Bar Emulation 5522, Traveler 1148 GDAR and SS Rito 0715 OH3. Adding to the bulls we were using on our System 1 females is a product of our System 1 1987 calf crop, Gardens Transition. He had an actual birth weight of 72 pounds, was 6 days short of normal gestation length, a 205 day weight of 605; ratio 109, with a 365 day weight of 1181; ration 109. His scrotal cm. measured 39cm and we collected 209 unites os semen on his first collection. At 13 months he weighted 1260, with .2 inches of back fat and had an ultra sound rib eye of 15.1 square inches. His mild EPD of +16.5 ranks him in the top 1% of the breed, and his dam is triple bred to Emulation 31. In the spring of 1989, Lemon Impact was added to our program. He had an actual birth weight of 70 pounds and at the Tifton Bull Test, in Tifton, Georgia, he had a 140 day rate of gain of 4.75, weighing 1406 at a year with .4 inches of back fat and a scrotal measurement of 43cm. When carcass EPD's became available, we realized the bulls we had selected to use in our program were all plus on marbling EPD, minus on back fat EPD, and for the most part plus on ribeye area. Although this information is for the most part on the sires and/or

sires of the dams, we are now actively engaged in collecting carcass data on all the bulls we use in our program.

Our next step was defining the perimeters for our System 2 cattle, which we called combination. These cattle would have moderate birth EPD's with added growth. We set birth EPD's at +1 to +4 with actual birth weights of 80 to 95 pounds. By studying the progeny records of our females plus the bulls EPD's that we had been using, we found that the majority of their calves fell into this range. On our System 2 cows, we looked for milk EPD's that were breed average or above and set our perimeters at -5 to +15. Growth again was not limited as long as the first 2 functions were maintained. Just as calving ease was the major emphasis in our System 1 cattle, growth became important in this group. Our search for bulls with birth EPD's of less than +4 pounds and with growth EPD's higher than our S-1 cattle was no easy task. We finally located a bull that fit our perimeters.

This bull was introduced to increase growth and still maintain moderate birth weight. His name is Fortune 3261. His weaning EPD of +47.2 pounds ranks him in the .04% of the breed, and his yearling EPD of +59.1 pounds ranks him in the .54%.

Another bull that fit our perimeters was a son of Rito Excell. We had always admired Excell's moderate birth weights and tremendous growth but were a little gun shy of his milk EPD's. Excell Lad 2600 has a weaning EPD of +33.0 pounds that ranks him in the top 2% and a yearling EPD of +59.0 pounds that ranks him in the top 5% of the breed.

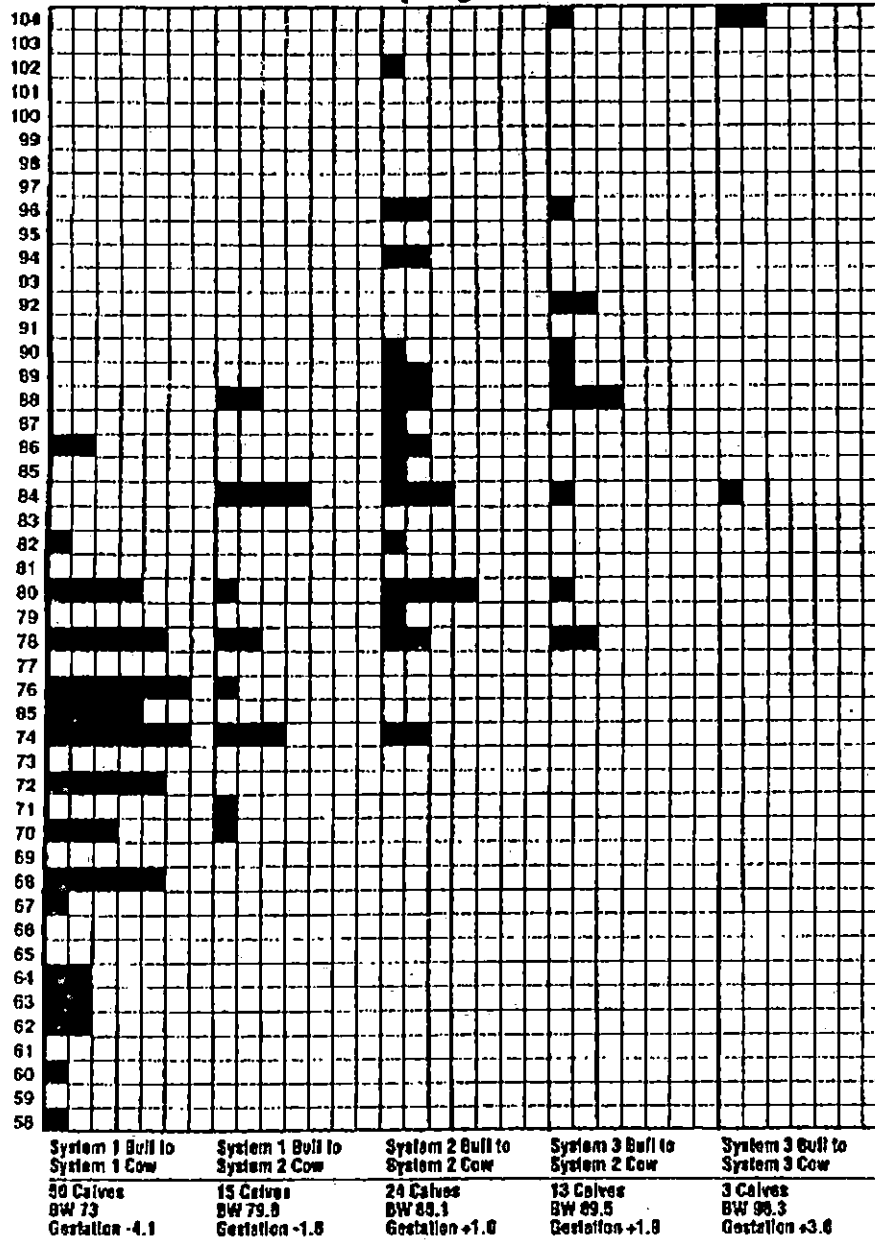
Our third step was defining the perimeters for our System 3 cattle. We felt there was a market for a maximum growth group of cattle within our industry and established birth EPD's of +4 to +8 with actual birth weights of 95 pounds and up. Milk EPD's were set at -5 to +10 pounds with growth being this systems primary function.

We had very few cows that fit into this system and when mated to high growth bulls (which were also carrying high birth EPD's) their calves birth weights were very high. Since our commercial bull buyers have been discriminating against high birth weight bulls, our plans for this system have changed. We no longer breed cows with high birth EPD's to bulls with +5 birth EPD's and up, but will sample a few growth bulls on System 2 cows mainly for comparisons with our System 2 sires. Two bulls that we have used are Rito 9J9 and Scotch Cap. The System 3 group will primarily become a place to identify those cattle that fall out of our System 2 specifications.

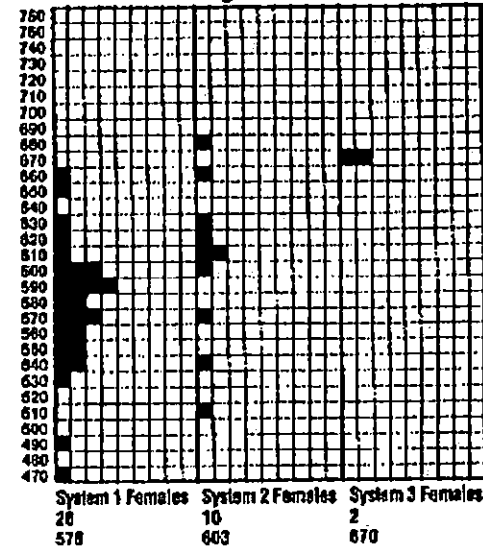
To give you an idea of how our program is working under our management and environment, we have put the results of our 1989 calf crop, from birth to yearling, on graphs. This may give you a better understanding of how we use systematic selection to improve the predictability of the products we are selling.

In our past few years of work on Systems 1, 2 and 3, we have gained an appreciation for the EPD approach to livestock selection and are convinced of their value to our breeding program. Not only is it our goal to create a highly predictable product by using EPD's, but to also identify the genetics needed to produce superior carcass composition cattle that will not only meet packer specifications, return a profit to the producer, but will also satisfy our ultimate consumer, the people who enjoy eating beef.

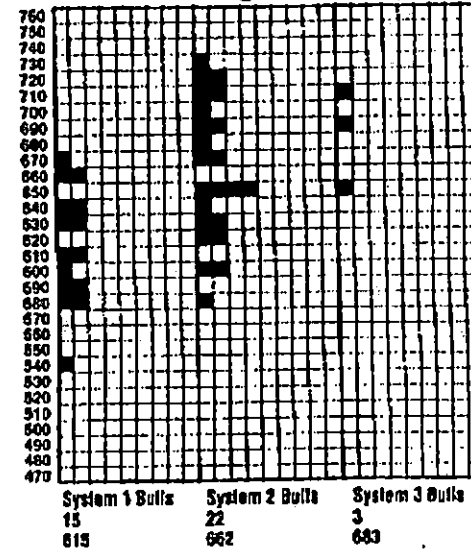
## 1989 Spring Calves



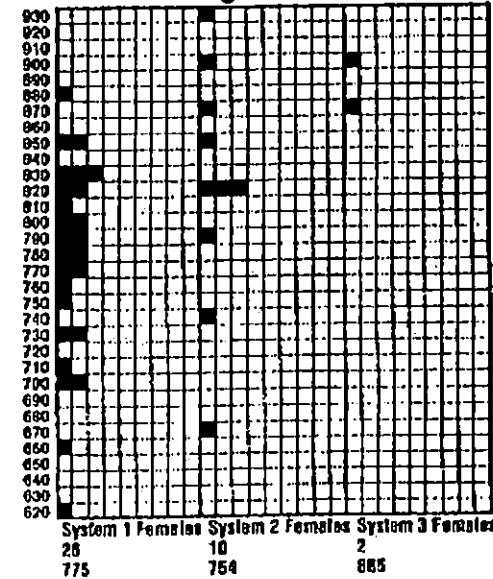
## 1989 Weaning Data-Females



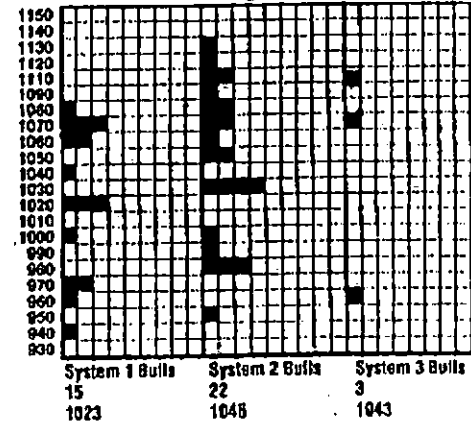
## 1989 Weaning Data-Bulls



## 1989 Yearling Data-Females



## 1989 Yearling Data-Bulls



These graphs represent the results of how our system program has worked on our farm. The program may vary under different management and environmental conditions.